IOP Conference Series: Materials Science and Engineering 2016 vol.158 N1

Approximation of operator eigenvalue problems in a Hilbert space

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Abstract

© Published under licence by IOP Publishing Ltd.The eigenvalue problem for a compact symmetric positive definite operator in an infinite-dimensional Hilbert space is approximated by an operator eigenvalue problem in finitedimensional subspace. Error estimates for the approximate eigenvalues and eigenelements are established. These results can be applied for investigating the finite element method with numerical integration for differential eigenvalue problems.

http://dx.doi.org/10.1088/1757-899X/158/1/012087